

Testimony for the Senate Education, Energy, and the Environment Committee

SB 477 Residential Construction or Significant Renovation - Electric Vehicle Charging

Position: **Favorable**

February 13, 2023

The Honorable Brian J. Feldman, Chair
Room 2 West, Miller Senate Office Building
Annapolis, MD 21401

Honorable Chair Feldman and Members of the Senate Education, Energy, and the Environment Committee:

I am Robert Erdman, a proud owner of two electric vehicles, a Chevy Volt and a Tesla Model S, as well as the Treasurer of the Electric Vehicle Association of Greater Washington DC (EVADC). I write to express my strong support for SB 477 Residential Construction or Significant Renovation - Electric Vehicle Charging.

As a family who relies on electric vehicles, we understand the importance of having the ability to charge at home. The convenience of charging at home is a crucial factor for us, and I believe that this bill will provide much-needed help for Maryland residents, especially those who live in HOAs and multi-dwelling units, to take advantage of the benefits of electric vehicles such as lower maintenance costs and fuel savings.

As the sales of electric vehicles continue to rise and the choice of EVs expands, it is vital to ensure that residents have the infrastructure to support their needs. The proposed bill will go a long way in achieving this goal and making Maryland a leader in sustainable transportation with the added benefits of cleaner air and domestically sourced fuel.

I have attached a flyer that highlights the benefits of electric vehicles for Maryland and hope that you will consider passing this bill. Thank you for your time and attention to this matter.

Sincerely,

Robert S. Erdman

Potomac, MD 20854

Electric Vehicle Incentives are an Investment in Maryland

Economic Benefits

- Every day, Maryland drivers spend over \$18 million on motor vehicle fuels. That's over **\$6.6 billion** a year!¹
- Since Maryland has no crude oil industry, at least 80% of the cost of every gallon of gas immediately leaves the state economy.² That's over \$14.5 million that leaves the state every day.³
- Driving an EV in MD will save a driver **~\$3,901** in fuel costs.⁴ This money can be used for eating out, groceries, home improvements, and entertainment. This creates local jobs and support Maryland's economy.

Environmental Benefits

- Transportation is the leading cause of greenhouse gas emissions in the United States *and* in Maryland.⁵
- Climate change damages from vehicle emissions include reduced agricultural yields, health impacts in cities due to heat, and flooding and erosion in coastal areas.⁶
- Using the Social Cost of Carbon, each EV on the road in MD prevents **~\$1607** in damages from carbon in the atmosphere.⁷

Health Benefits

- Transportation accounts for more than half of all the air pollution in the United States. The primary mobile source of air pollution is the automobile.⁸
- Exposure to on-road pollution leads to heart attacks, strokes, and asthma attacks resulting in ER visits, hospitalization, and premature death.⁹
- Every EV on the road prevents health damages of over **~\$1038**.¹⁰

Energy Security Benefits

- Dependence on imported fossil fuels for transportation results in risk and costs associated with fuel security and national security.
- A 2018 study by Securing America's Energy Future (SAFE) measured money spent by the U.S. military to protect global oil supplies and calculated this value over the number of barrels of imported oil. They calculated a value of between 28¢ to over 70¢ per gallon.¹¹
- We calculated that every EV on the road will save **~\$2284** in energy security and national security costs.¹²

Electric System Benefits

- EV batteries can store electricity which can be used to create a more resilient and efficient electric system.
- Increasing grid efficiency puts downward pressure on electric rates, which can save *all* customers money on electric bills.
- Studies show that each EV can provide about **~\$1867** in benefits to the electric grid.¹³

These Benefits Add Up

Each EV in Maryland will contribute over **\$10,000** in benefits to people living in Maryland. Turning some of these benefits into EV incentives saves Maryland money and helps it meet important policy goals. Funding point-of-sale rebates for EVs will help Maryland improve public health, meet climate change goals, grow the economy, and promote energy security.



\$10,697 Cumulative Benefits
(over 8 years of operation)



Read the full report "*The Far-reaching Benefits of Electric Vehicles*" at: <https://evadc.org/EVInfo>

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- ¹ Based on motor fuel gallons sold FY 2020: <https://www.marylandtaxes.gov/reports/static-files/revenue/motorfuel/gallonssold/gallonssoldFY2019-2020.pdf> multiplied by gas price in MD for 11/23/20 <https://gasprices.aaa.com/?state=MD>
- ² <https://www.eia.gov/petroleum/gasdiesel/>
- ³ Based on motor fuel gallons sold FY 2020: <https://www.marylandtaxes.gov/reports/static-files/revenue/motorfuel/gallonssold/gallonssoldFY2019-2020.pdf> multiplied by gas price in MD for 11/23/20 <https://gasprices.aaa.com/?state=MD>. Daily cost multiplied by 80%.
- ⁴ Based on driving 12,000 miles a year with 30 mpg fuel efficiency and paying \$2.23 per gallon of gas compared with a comparable EV driving the same mileage with 27kWh/100mile efficiency and electricity costs of 12.48 cents/kWh from https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_6_a. Over 8 years of driving vehicle.
- ⁵ <https://mde.maryland.gov/programs/Air/ClimateChange/Pages/GreenhouseGasInventory.aspx>
- ⁶ <https://climate.nasa.gov/effects/#:~:text=Increased%20heat%2C%20drought%20and%20insect,coastal%20areas%20are%20additio%20nal%20concerns.>
- ⁷ Calculated by using the inflation-adjusted Social Cost of Carbon (\$53.34 per metric ton) multiplied by the tons of carbon equivalent emitted from driving a conventional gasoline vehicle vs. the carbon equivalent emitted from electricity generation of driving an EV in MD: https://afdc.energy.gov/vehicles/electric_emissions.html.
- ⁸ <https://www.nps.gov/subjects/air/sources.htm#:~:text=Mobile%2C%20stationary%2C%20area%2C%20and,to%20the%20Environm%20ental%20Protection%20Agency.>
- ⁹ <https://gispub.epa.gov/air/trendsreport/2018/#effects>
- ¹⁰ Based on values in National Academies [Hidden Costs of Energy](#) cost per ton and multiplied by emissions from average vehicle emissions rates and eGRID emissions factors for electricity generation in MD.
- ¹¹ Securing America's Energy Future. 2018. The Military Cost of Defending the Global Oil Supply. <http://secureenergy.org/wp-content/uploads/2020/03/Military-Cost-of-Defending-the-Global-Oil-Supply.-Sep.-18.-2018.pdf>
- ¹² Based on cost per barrel of oil energy security from <https://19january2017snapshot.epa.gov/sites/production/files/2015-08/documents/ornl-tm-2007-028.pdf> multiplied by imported barrels of oil added to mileage values for military costs of defending global oils supply: . <http://secureenergy.org/wp-content/uploads/2020/03/Military-Cost-of-Defending-the-Global-Oil-Supply.-Sep.-18.-2018.pdf>.
- ¹³ Based on an average value of ratepayer benefits from the following studies:
<https://rmi.org/wp-content/uploads/2017/10/RMI-From-Gas-To-Grid.pdf>
http://www.b-e-f.org/wp-content/uploads/2020/06/BEF_EV-cost-benefit-study_2020.pdf
Benefit-Cost Analysis of Electric Vehicle Deployment in New York State Final Report | Report Number 19-07 | February 2019